Chapter 3: Material Hardship Indexes

Researchers have struggled to create composite measures of material hardship. There are numerous dimensions of material need (e.g., food, shelter, medical care) and researchers must not only choose what types of needs to include in their definition of material hardship, but also determine the threshold at which a family is considered "deprived" of a specific need. In assessing the overall needs of families, researchers also must decide how to weigh measures of material need and combine measures to create a composite hardship index. Despite these complexities, however, a number of domestic policy researchers have created material hardship indexes.

In this chapter, we examine the different approaches researchers have used to define material hardship and the measures they have included in their hardship indexes. Since the SIPP has been the most common source of data for constructing hardship indexes, this chapter distinguishes between the measures drawn from or that are comparable to the SIPP, and those that are not. Chapter 4 goes on to examine the SIPP measures that have been included in hardship indexes and provide descriptive analyses of how these measures relate to other constructs such as household income, where a household lives (e.g., urban *versus* rural), and family structure. Together, the analyses presented in Chapters 3 and 4 broaden our understanding of the measures that have been most frequently used to define material hardship and create hardship indexes.

Description of Studies Included in the Review

Nine studies were included in our review of material hardship indexes. These studies were selected because they: 1) measure multiple aspects of material hardship; and, 2) construct a hardship or deprivation index to describe household or families' material well-being. (Exhibit 3.1)

Six of the studies use SIPP data in their analysis: Bauman (1998); Beverly (1999); Federman et al. (1996); Lerman (2002); Rector et al. (1999); and Short and Shea (1995). The SIPP is a nationally representative survey sponsored by the US Census Bureau that collects a wide variety of economic and demographic information on panels of respondents over a period of several years, contacting sample members every four months. All but one of these studies used data from the 1991/1992 and 1993 SIPP panels; Lerman, (2002a) used the 1996 panel. Data were primarily drawn from three of the SIPP's topical modules - Extended Measures of Well-Being, Basic Needs, and Adult Well-Being topical modules; the module selected depends on which SIPP panel was used to construct the hardship index. (A more detailed description of the SIPP and its topical modules is provided in Chapter 4.)

The other three studies – Danziger et al. (2000), Edin and Lein (1997), and Mayer and Jencks (1989 – use data from surveys with targeted populations. Danziger et al. (2000) use the Women's Employment Survey (WES), which was conducted in 1997 and 1998 with a random sample of single mothers who were welfare recipients in an urban Michigan county during 1997. Mayer and Jencks (1989) use a Chicago-based material hardship survey (conducted during Fall 1983 and Spring 1985). Edin and Lein (1997) collect data during qualitative interviews with low-income single mothers for a range of questions that were derived from Mayer and Jencks' (1989) Chicago-based survey.

The first column of Exhibit 3.1 summarizes the different approaches these studies used to define material hardship. Among the studies, researchers primarily define material hardship in terms of direct measures of hardship experiences or actual living conditions (Bauman, 1998; Danziger, Corcoran, Danziger, & Heflin, 2000; Edin & Lein, 1997; Federman et al., 1996; Lerman, 2002; Mayer & Jencks, 1989; Rector et al., 1999; Short & Shea, 1995). Although Beverly (1999a) defines hardship as, "inadequate *consumption* of very basic goods and services," the measures used to define hardship actually focus on household experiences and living conditions (e.g., food insufficiency, housing quality) rather than consumption.

All of the selected studies use a hardship index to describe households' experiences. While each of the measures included in these indexes reflects a hardship, examining only one living condition at a time may underestimate the extent to which families forego other basic needs (Federman et al., 1996). For example, households with limited resources may make trade-offs among basic needs (e.g., food vs. needed medical care) or choose different allocations of goods and services to make ends meet (Edin & Lein, 1997). Moreover, indexes also may capture important information about the severity of a household's living conditions. Here, the notion is that families' hardship experience increases if a household suffers from multiple problems rather than a single condition (Rector et al., 1999).

For the most part, researchers have constructed unweighted indexes, which count each hardship experience equally -- that is, no one hardship is considered worse than another. However, it is important to note that such unit-weighted indexes often include multiple measures of the same construct (e.g., multiple measures of a families' ability to meet its basic needs). To the extent that these questions actually measure the same construct the index may, in fact, be "weighted" more heavily toward certain types of hardship by virtue of the fact more than one measure captures certain aspects of hardship.

Four researchers use weighted indexes, which assign different weights according to the relative importance of specific hardship experiences. Lerman (2002a) uses *a priori* judgments regarding the relative severity of specific conditions. Edin and Lein (1997) and Mayer and Jencks (1989) weight specific hardship experiences according to their correlation with respondents' satisfaction with living conditions.[4] In contrast, Rector et al. (1999) define three levels of hardship:

- Threshold indicators, or questions that cover financial rather than material difficulties;

- Moderate material problems (i.e., having gas, electricity or oil cut off for non-payment during the last year; having phone service cut off for nonpayment during the year; moderate crowding; having three or four housing upkeep problems; not having a stove or refrigerator; occasional hunger; and unmet medical need in instances where a household does not have health insurance); and

- Substantial material problems (i.e., eviction during prior year; substantial crowding; five or more housing upkeep problems; frequent hunger).

[4] Mayer & Jencks (1989) found that their weighted scale correlates 0.98 with their unweighted scale of eight hardships. As a result, they only use the unweighted scale when reporting their results.

Households are identified as experiencing hardship if they have one or more substantial material problems or three or more moderate material problems, **and** a household income less than 200% FPL. With a few exceptions (i.e., Edin & Lein, 1997; Mirowsky & Ross, 1999; Rector et al., 1999), households are defined as experiencing material hardship if they have at least one hardship condition. The conditions measured are presumed to be relatively rare in the general population, predominantly occurring among low-income households, and reflect households' inability to meet their basic needs (Beverly, 1999). Households that experience more severe hardship circumstances are identified by the presence of more than one condition (e.g., two or more, etc.).

All of the indexes examined here define material hardship in terms of three of basic needs: food insecurity, housing insecurity, and the inability to afford basic utilities such as gas, electricity, or a telephone. (Exhibit 3.1) All but two of the studies (i.e., Federman et al., 1996; Lerman, 2002) also include measures of unmet medical need as an indicator of a family's ability to meet its basic needs. In addition to these basic needs indicators, some of the studies include three other types of indicators in their definition of material hardship: housing safety, housing overcrowding, and the presence of essential durable goods in a household (i.e., stove and refrigerator). Only Short and Shea's (1995) material hardship definition includes measures of the amount of outside assistance available to a household (i.e., households that do not have access to a certain level of outside assistance are considered deprived).

In the following sections, we review the basic needs and other measures that have been used in the nine hardship indexes, highlighting the similarities and differences among the constructs used.

Exhibit 3.1

Summary of Material Hardship Studies

Author	Approach Used to Describe Hardship	Index is Unweighted (U) or Weighted (W)	Index Threshold	Data Source	Types of Indicators Included In Index: Basic Needs and Food Insecurity Indicators: Food Insecurity	Housing - Insecurity	Basic Utilities	Unmet Medical/No Insurance	Other Indicators: Housing - Quality	Housing - Crowding	Durable Goods
Bauman (1998)	Uses ***direct*** measures of economic well being to keep track of ***how people are getting by***	U	One or more hardships	SIPP (1992/93)	X	X	X	X			
Beverly (1999a)	Inadequate ***consumption*** of very basic good and services such as food, housing, clothing, and medical care.	U	One or more hardships	SIPP (1992/93)	X	X	X	X	X		
Danziger et al. (2000)	Recent ***experiences of material hardship*** and financial strain	U	One or two hardship conditions	WES	X	X	X	X*			
Edin & Lein (1997)	Items that virtually every American would consider ***necessities; Living conditions*** below a standard most Americans would consider adequate	U/W	No threshold; reported average number of hardships for families in each site	In-person interviews with single mothers	X	X	X	X*	X		
Federman et al. (1996)	Summarizes ***living conditions*** of individuals living in poor and non-poor families	U	More than one deprivation	SIPP (1992)	X	X	X		X	X	X
Lerman (2002a)	General and specific ***problems in making ends meet*** as well as the availability of ***outside help to meet basic needs***	W	One or more hardships	SIPP (1996)	X	X	X			X	

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Mayer & Jencks (1989)	Uses direct measures to examine severity of household's ***hardship experiences***	U/W	One or more hardships	Chicago-based Material Hardship Survey	X	X	X	X*	X	X	
Rector et al. (1999)	***Actual material living conditions***	U	Must meet conditions set in the *Overall Material Hardship Index*	SIPP (1992)	X	X	X	X	X	X	X
Short & Shea (1995)	Inability to meet ***basic needs***	U	One or more deprivations	SIPP (1992)	X	X	X	X			
Total Number of Studies Including a Specific Type of Hardship in Their Index					9	9	9	7	5	4	2

* Include measures of unmet medical need ***and*** whether household members have health insurance.

Types of Measures Included in Material Hardship Indexes

In the following sections we look at the different types of measures incorporated in the nine hardship indexes included in our review. This discussion distinguishes between indexes addressing basic needs and food insecurity, and those that also incorporate other measures of material hardship. For both types of hardship, we examine the specific indicators researchers have included in their hardship indexes and distinguish between those indicators that were drawn from the SIPP and those that were not.

Basic Needs and Food Insecurity

The indexes examined here define hardship in terms of at least three aspects of basic physiological needs: food, shelter, and medical care. Additionally, several indexes include indicators of whether a household has access to basic utilities such as electricity, gas and telephone.

Food Insecurity

Exhibit 3.2 shows the measures used to construct the various food-related indicators included in the studies' material hardship indexes. All of the studies included at least one food security indicator in its material hardship index. Six of the studies include one dichotomous indicator of food security (Bauman, 1998; Beverly, 1999; Danziger et al., 2000; Federman et al., 1996; Lerman, 2002; Rector et al., 1999),while the other three studies included two such indicators (Edin & Lein, 1997; Mayer & Jencks, 1989; Short & Shea, 1995).

The six SIPP-based studies used the same indicator in their hardship index: *whether or not a household "sometimes" or "often" did not have "enough" food during the past four months*. Rector et al. (1999) included those households that "sometimes" did not have enough to eat in their list of moderate material problems and those that responded "often" in their list of substantial material problems; the remaining studies counted households as having a food related hardship if they respond "sometimes" or "often." The relatively consistent use of this SIPP measure allows for a comparison of the levels of food-related hardship identified by these studies. This measure is included in the analyses presented in Chapter 4.

Short and Shea (1995) included a second dichotomous food security indicator in their hardship index: *whether a household had a day in the past month where they did not have food or money to buy food*. Beverly (1999a) also included this measure in a secondary material hardship index, in lieu of the "enough" food question, and shows that it is correlated with low-levels of household income. The extent to which this additional food security indicator overlaps with the "enough" food indicator is unclear. To the extent it does, Short and Shea's (1995) index, which uses both questions as separate indicators in their index, may place additional weight on food-related hardships in their overall measure of material hardship. Although this measure is included in the SIPP, given that it has been used relatively infrequently in hardship indexes, it is not included in the analyses presented in Chapter 4.

Studies that used non-SIPP data sources were more likely to use different food-related indicators and combinations of indicators in their hardship indexes than studies that used SIPP data. Danziger et al. (2000) included a dichotomous indicator of food insufficiency that is based on the USDA Food Security scale, which uses 18 measures to identify households that are food secure, food insecure-

with no hunger, and food insecure-with hunger.[5] Also, the 6-item scale was validated against the 18-item scale. While the USDA scale has been validated against the 18-item USDA scale and against two alternative food sufficiency measures (nutrient intake and food expenditures), none of the more limited measures used in the eight other indexes examined here have been similarly validated (Cristofar & Basiotis, 1992; Rose & Oliveira, 1997).

Edin and Lein (1997) included two food-related hardship indicators in their index. The first is based on a question similar to one included in the 1996 SIPP: *whether a respondent ate less than felt s/he should*. Their second dichotomous indicator identifies households as experiencing a food-related hardship if there has been a *time in the last year when it could not afford to buy food or could not get out to get food*. Mayer and Jencks (1989) also used this indicator in their hardship index. Additionally, Mayer and Jencks (1989) incorporated a dichotomous indicator that describes whether a household's food expenditures was below the USDA's thrifty food plan (defined as an "economy" food budget based on a basket of food items). The thrifty food plan was designed to represent the minimal cost of a nutritious diet. However, in using this indicator, Mayer and Jencks (1989) note that this might be an unreliable indicator of whether a family's diet contains what experts regard as desirable nutrients. Although, it can be expected that families that spend less than the "thrifty" food budget are less likely to eat nutritionally adequate diets.

[5] USDA has developed a comprehensive 18-item scale and Short-form scale, with only 6 items, to describe food security. Eight of the studies examined here, with the exception of Danziger et al. (2000), use a more limited set of specific questions to construct their food-related hardship indicators, sometimes only using one or two questions to describe this condition. The USDA food security scale was developed after the 1991 and 1993 SIPP panels were fielded and the 1996 SIPP panel uses a different six-item food security scale, which contains modified versions of some of the USDA questions. The questions have been adapted from a 12-month reference period (as asked in the CPS) to a 4-month period, and the Economic Research Service has developed an algorithm that maps responses to the SIPP questions to the USDA's three-point scale (food secure, food insecure-without hunger, and food insecure-with hunger). (See *Survey of Income and Program Participation 1996 Wave 8 Food Security Data File, Technical Documentation, and User Notes*).

Exhibit 3.2

Questions Used to Construct Food Insecurity Indicators

	Studies Using SIPP Data						Studies Using Non-SIPP Data		
Items from the 1996 SIPP *(Shaded Rows Indicate Questions Included in the 1992 SIPP)*	**Bauman (1998)**	**Beverly (1999)**	**Federman et al. (1992)**	**Lerman (2002a)[1]**	**Rector et al. (1999)**	**Short & Shea (1995)**	**Danziger et al. (2000)**	**Edin & Lein (1997)**	**Mayer & Jencks (1989)**
Food bought didn't last and I/we didn't have money to get more							X		
Couldn't afford to eat balanced meals							X		
Respondent ate less than felt s/he should								X[6]	
Adult(s) cut size or skipped meals in 3 or more months							X		
Adults didn't eat for a whole day							X		
Description of food in household in last four months: Enough of the kinds of food wanted, enough but not always the kinds of food wanted, sometimes not enough to eat, often not enough to eat	X	X[4] (Sometimes or Often)	X	X	X[2]	X			
Children were not eating enough							X		
Other Non-SIPP Questions									
One day in past month household had no food or money to buy food		X[5]				X			
18-Item USDA Food Security Scale (Food Insufficient Households = 1 in Index)							X[3]		
Has there been a time in the last year when you needed food but couldn't afford to buy it or couldn't get out to get it?								X[7]	X
USDA Thrifty Food Budget (1 = Below Threshold; 0 = Above Threshold)									X

[1] Lerman (2002a) is the only study that used data from the 1996 SIPP. All others used data from the 1992 and 1993 SIPP panels.
[2] "Sometimes" = Moderate Material Problem; "Often" = Substantial Material Problem
[3] Items checked above are included in the 18-Item USDA Food Security Scale
[4] Included in primary index
[5] Included in secondary index
[6] Have you gone hungry because you could not afford to buy food? When was the last time that this happened to you?
[7] Asks if "ever" went without food and then asks when the last time this happened.

Housing Security

Housing security indicators address the stability and adequacy of a family's living conditions. Three types of these indicators were used in the examined studies: homelessness/doubling up, inability to meet essential housing expenses, and evictions. (Exhibit 3.3)

All but one of the studies included a dichotomous "eviction" indicator in its hardship index: *whether the respondent or anyone in the household was evicted from their home or apartment for not paying rent or mortgage*. This measure is similar to that included in the 1996 SIPP; however, researchers chose to apply different recall periods (e.g., 12 months *versus* 24 months). Researchers have shown that eviction is strongly correlated with low income and other factors related to material hardship (e.g., Bauman, 1998; Beverly, 1999a). (Additional descriptive analyses of this measure are included in Chapter 4.)

Lerman (2002a) combined two SIPP measures to create the eviction indictor included in his index: *evicted* OR *home undesirable enough to move*. The latter measure is intended to capture other types of involuntary moves, such as those due to inadequate or unsafe housing.

There is disagreement among researchers as to whether additional housing security indicators beyond eviction should be included in a material hardship index. Bauman (1998), Rector et al. (1999), and Short and Shea (1995) augment their use of an eviction indicator with a second indicator of housing security, a household's ability to meet its essential housing expenses. In all cases, a measure identical to that used on the 1996 SIPP is used: *whether there was a time in the last 12 months when you/your household did not pay the full amount of the rent or mortgage.* Mayer and Jencks (1989) and Edin and Lein (1997) similarly augment their eviction indicators: *whether there was a time when the respondent could not afford a place to stay or could not afford rent.* Danziger et al. (2000) and Edin and Lein (1997) also included indicators of homelessness or doubling up in their hardship indexes.

Interestingly, Mayer and Jencks (1989) eliminated their eviction indicator from their final hardship index due to the fact that it only had a small effect on respondents' assessment of their living standards, when controlling for whether the household could afford rent. They concluded that "eviction" measures are not a good measure of housing hardship.

Exhibit 3.3

Questions Used to Construct Housing Security Indicators

	Studies Using SIPP Data						Studies Using Non-SIPP Data		
Items from the 1996 SIPP *(Shaded Rows Indicate Questions Included in the 1992 SIPP)*	**Bauman (1998)**	**Beverly (1999)**	**Federman et al. (1992)**	**Lerman (2002a)[1]**	**Rector et al. (1999)**	**Short & Shea (1995)**	**Danziger et al. (2000)**	**Edin & Lein (1997)**	**Mayer & Jencks (1989)**
Homelessness/Doubling-up									
During the last 12 months, did you or your children move in with other people even for a little while because you could not afford to pay your mortgage, rent or utility bills?								X	
Unable to Meet Essential Housing Expenses									
Was there a time in the past 12 months when you/your household did not pay the full amount of the rent or mortgage?	X				X	X			
Evictions/Undesirable Enough to Move									
During the last 12 months were/was you/anyone in your household evicted from your home or apartment for not paying rent or mortgage?	X	X	X	X[4]	X	X	X[3]	X	X
Are conditions in your home undesirable enough to move?				X[4]					
Other Non-SIPP Questions									
Has there been a time when you couldn't afford a place to stay or when you couldn't pay the rent?								X	X[2]
Have you been homeless since {date left welfare}?							X		

[1] This is the only study that used data from the 1996 SIPP. All others used data from the 1992 and 1993 SIPPs.
[2] Question used a two year recall period and was not asked of homeowners, since it was assumed that almost all homeowners should be able to make their monthly housing payments and not suffer evictions. Homeowners were coded as "no" in scale.
[3] Asks whether this occurred since date left welfare.
[4] Lerman (2002a) uses a combined indicator in his hardship index – "Evicted OR Home Undesirable Enough to Move."

Medical and Health Insurance Hardships

Three types of medical and health insurance hardship indicators were included in the material hardship indexes we reviewed: access to needed medical care; access to needed dental care; and health insurance coverage. All but two of the studies – Federman et al. (1992) and Lerman (2002a) – included at least one of these indicators in their hardship indexes.

All of the studies that include a medical need indicator used a measure similar to that included in the 1996 SIPP to describe whether a household has access to needed medical care: *whether there was a time when anyone in the household needed to see a doctor or go to the hospital but did not go.* (Exhibit 3.4) Rector et al. (1999) added a second condition to this measure when constructing their hardship indicator: lack of health insurance. That is, households were not considered to have an unmet medical need unless they also did not have health insurance. This additional condition is intended to account for the fact that the SIPP measure does not identify a cause for the unmet need. For example, someone in a household might not go to a doctor when they needed to go for reasons other than those related to material hardship. Similarly, Mayer and Jencks (1989) added an insufficient resource condition to their unmet medical and dental questions. While incorporating these types of additional conditions into unmet medical need indicators may improve their usefulness as an indicator of material hardship, it makes it difficult to compare estimates of medical need hardship across studies. Bauman (1998) and Short and Shea (1995) also included a dental need indicator in their index. Chapter 4 includes further analyses of the SIPP measures on unmet medical and dental needs.

Edin and Lein (1997) and Mayer and Jencks (1989) used a combined indicator in their index that captures households that had either an unmet medical need **or** unmet dental need. The dental need measure used by these studies is very similar to that included in the 1996 SIPP.

Three studies – Danziger et al., (2000), Edin and Lein (1997), and Mayer and Jencks (1989 – included non-SIPP health-insurance related indicators in their hardship indexes. Danziger et al. (2000) included two separate indicators – one for adults without health insurance and one for children in a household without health insurance. In contrast, Edin and Lein (1997) only looked at the adult respondent and Mayer and Jencks (1989) included any household member. The measures used in these studies cannot be compared to those included the 1996 SIPP analyses presented in Chapter 4.

Including health insurance-related indicators in material hardship indexes, however, may be problematic. It is unclear whether the absence of health insurance is describing a construct different from access to medical care. To the extent that these indicators describe the same construct including them both in a hardship index may be problematic. For example, while lack of health insurance coverage can certainly bring about health care-related hardships, there is a question as to whether not having coverage in and of itself constitutes a hardship; instead, this might be considered a "crude," or indirect, indicator of access to needed care (Kirby & Kennedy, 2001). However, Rector et al., (1999) note that "lacking insurance is not the same as lacking health care; in fact most uninsured persons receive medical care when needed" (p. 370). Furthermore, Mayer and Jencks (1989) found that "a family's not having a member with no health insurance correlated only 0.20 with having been able to afford medical care, but it had a strong effect on respondents' assessments of their standard of living" (p. 96). This suggests that a health insurance coverage measure may describe something other than health care-related hardship.

Exhibit 3.4

Questions Used to Construct Medical Care and Health Insurance Indicators

	Studies Using SIPP Data						Studies Using Non-SIPP Data		
Items from the 1996 SIPP *(All Questions Included in the 1992 SIPP)*	**Bauman (1998)**	**Beverly (1999)**	**Federman et al. (1992)**	**Lerman (2002a)[1]**	**Rector et al. (1999)**	**Short & Shea (1995)**	**Danziger et al. (2000)**	**Edin & Lein (1997)**	**Mayer & Jencks (1989)**
In the past 12 months, was there a time you/anyone in your household needed to see a doctor or go to the hospital but did not go?	X	X			X[2]	X	X[4]	X[5]	X[3]
In the past 12 months, was there a time you/anyone in your household needed to see a dentist but did not go?	X					X		X[5]	X[3]
Other Non-SIPP Questions									
Adult respondent did not have health insurance							X	X	
Child(ren) in household did not have health insurance							X		
Is everyone in your household covered by health insurance such as Medicare, Medicaid, Veteran's benefits, Blue Cross, Prudential, an HMO, or any other program?									X

[1] This is the only study that used data from the 1996 SIPP. All others used data from the 1992 and 1993 SIPPs.
[2] Only included households in index who had an unmet need and did not have health insurance.
[3] Only included in index if the unmet need was because of "lack of money."
[4] Includes separate measures in index for mother having unmet need and child(ren) having unmet need; reference period was "since left welfare."
[5] Combines doctor and dentist into one measure in index; only includes if unmet need is due to lack of insurance or money.
[6] Reported in index as "no health benefits."

Difficulty Affording Utility Bills

Absent basic utilities such as gas, electric, water and phone, families may not have necessary heat, hot water, air conditioning, lights or cooking facilities, or key means of communication (Beverly, 1999a). All but one of the studies' hardship indexes included the following utility shut-off indicator in its hardship index: *whether or not a household had experienced a gas or electricity shutoff, or an oil company had not delivered oil.* (Exhibit 3.5) Beverly (1999a) constructed her indicator using two SIPP questions: the shut off question described above and a second question that determined whether a household did not pay the full amount of its gas, oil or electric bill in the last 12 months. Households that responded "yes" to either or both questions were identified as having a utility-related hardship. Bauman (1998), Rector et al. (1999), and Short and Shea (1995) included a separate indicator of whether a household did not pay the full amount of their utility bills in the last 12 months in their hardship indexes.

Both the shut-off measure and the unpaid bill measure are included in the SIPP. However, it is unclear to what extent there is overlap between these two measures. For example, it is not unlikely that those households that did not pay the full amount of their utility bills also would be those that were refused service. If this is the case, it may be that using these measures as separate indicators in a hardship index could be "double counting" the level of a households' material hardship.

Six of the studies included an indicator of whether a household had lost phone service in the past year because it did not pay the bill in their hardship index; Lerman (2002a), Edin and Lein (1997), and Mayer and Jencks (1989) did not. The telephone disconnection measure is included in the 1996 SIPP.

Chapter 4 presents additional descriptive analyses of the utility shut-off, unpaid utility bill, and telephone disconnection measures that are included in the 1996 SIPP.

Exhibit 3.5

Questions Used to Construct Utility-related Hardship Indicators

	Studies Using SIPP Data						Studies Using Non-SIPP Data		
Items from the 1996 SIPP *(All Questions Included in the 1992 SIPP)*	**Bauman (1998)**	**Beverly (1999)**	**Federman et al. (1992)**	**Lerman (2002a)[1]**	**Rector et al. (1999)**	**Short & Shea (1995)**	**Danziger et al. (2000)**	**Edin & Lein (1997)**	**Mayer & Jencks (1989)**
Time in past 12 months when did not pay the full amount of the gas, oil, or electricity bills	X	X[6]			X[4]	X			
Time in past 12 months gas or electricity company turned off service or the oil company did not deliver oil	X	X[6]	X	X	X[5]	X	X	X	X[3]
Time in past 12 months phone company disconnected service because of late payments	X	X	X		X[5]	X	X[2]		

[1] This is the only study that used data from the 1996 SIPP. All others used data from the 1992 and 1993 SIPPs.
[2] Indicator worded as, "Phone disconnected or gone without a phone because could not pay bill"; reference period of "since left welfare."
[3] Uses 24 month reference period.
[4] Included in analysis as "Threshold indicator."
[5] Included in analysis as "Moderate Material Problem."
[6] Reported as a combined measure -- "household did not pay full amount …" AND "household's gas or electric service was disconnected."

Other Hardships

Many of the hardship indexes we examined also augmented the basic needs indicators included in their index with housing quality, housing overcrowding, and durable goods indicators.

Housing Safety

Five of the studies (Mayer & Jencks, 1989; Edin & Lein, 1997; Federman et al., 1996; Beverly, 1999; and Rector et al., 1999) included a dichotomous housing safety indicator in their material hardship index. Households were identified as having a housing safety problem in these hardship indexes if they experienced a set number of housing problems. (Exhibit 3.6)

While researchers have used a relatively consistent set of housing problem measures to describe housing safety (e.g., the SIPP-based studies use the exact same measures and the two non-SIPP studies use very similar measures), the ability to compare housing safety-related hardships across studies and in relationship to overall material hardship is confounded by the different thresholds researchers use to identify a household as having a housing safety problem. For example:

- Mayer and Jencks (1989) considered respondents as having "housing problems" if a respondent had two or more problems (out of seven potential problems) that were due to "high cost" of repairs or a "problem with a landlord."

- Edin and Lein (1997) identified low-income female-headed households as having housing safety issues if they experienced at least two housing problems (out of eight potential problems).

- Federman et al. (1996) identified SIPP respondents as having "moderate" housing upkeep problems if three or four problems were noted, and "severe" problems if five or more housing safety problems were reported (out of the seven SIPP items).

- Beverly (1999) defined a household as having a "housing problem" if three or more housing upkeep problems were present (out of the seven SIPP items).

- Rector et al. (1999) defined moderate housing upkeep problems as three-or-four of the seven SIPP items and substantial housing upkeep problems as five or more of these items.

Additionally, unlike food-related hardships, not all researchers include housing safety-related problems as an indicator in their material hardship index. Discussions at the Roundtable Meeting revealed that researchers perceive a number of problems and limitations with these types of indicators. (See Roundtable Meeting Summary in Appendix A.) First, the measures are inherently subjective and do not capture the severity of the circumstances. Respondents indicate whether they feel a problem is present, but it is unclear as to how severe the situation should be for the circumstance to actually indicate a housing hardship exists.

Second, it may be the case that even families who are well-off and do not experience material hardship occasionally experience some of these conditions (e.g., leaky room, a broken window). Although the analyses presented in Chapter 4 (Exhibits 4.6 and 4.7) show some correlation between the incidence of housing problems and low-income, this contrast is not as stark as with other hardship measures.

Lastly, with the exception of the measures used by Mayer and Jencks (1989), the questions used to construct the studies' housing problem indicators do not identify the cause of the circumstance. Mayer and Jencks (1989) ask the respondent whether this problem had not been taken care of "due to the high cost involved, lack of time, a problem with the landlord, or some other reason" (p. 93). Only those conditions attributable to cost or a landlord problem were included in their housing problems index.

Exhibit 3.6

Questions Used to Construct Housing Quality Indicators

	Studies Using SIPP Data						Studies Using Non-SIPP Data		
Items from the 1996 SIPP *(All Questions Included in the 1992 SIPP)*	**Bauman (1998)**	**Beverly (1999)**	**Federman et al. (1992)**	**Lerman (2002a)[1]**	**Rector et al. (1999)**	**Short & Shea (1995)**	**Danziger et al. (2000)**	**Edin & Lein (1997)**	**Mayer & Jencks (1989)**
Problems with pests such as rats, mice, roaches, or other insects		X	X		X			X	X
A leaking roof or ceiling		X	X		X			X	X
Broken window glass or windows that can't shut		X	X		X				X
Exposed electric wires in the finished areas of your home		X	X		X			X	X
A toilet, hot water heater, or other plumbing that doesn't work		X	X		X			X	X
Holes in the walls or ceiling, or cracks wider than the edge of a dime		X	X		X				
Holes in the floor big enough for someone to catch their foot on		X	X		X				
Other Non-SIPP Questions									
Unreliable furnace, boiler, or heating system/heating system does not work properly								X	X
Broken locks or no locks on door in unit								X	
A stove or refrigerator that doesn't work								X	X
Inadequate garbage pickup								X	
Threshold Used to Identify Household with Housing Quality Hardship	N/A	3 or More Housing Quality Problems	3 or More Housing Quality Problems	N/A	3-4 for Moderate Housing Quality Hardship; 5 or More for Substantial	N/A	N/A	2 or More Housing Quality Problems	2 or More Housing Quality Problems - Due to Cost or Landlord

[1] This is the only study that used data from the 1996 SIPP. All others used data from the 1992 and 1993 SIPPs.

Overcrowding.
Overcrowding in households has been shown to be a problem in low-income households, especially in communities where rents are high, and in certain communities, such as Indian reservations, Alaska native villages, and communities with growing immigrant populations (Richardson, 2001).[6]

Four of the studies include an indicator of overcrowded housing in their material hardship indexes. Each study identified overcrowded households using a metric from the 1996 SIPP: the ratio of the *total number of rooms in a household* to the number of people living in the household, not counting bathrooms and hallways. Federman et al. (1992), Lerman (2002a), and Mayer and Jencks (1989) define a household as overcrowded as more than one person per room. Rector et al. (1999) identify households with 1-1.50 persons per room as experiencing moderate overcrowding and those with 1.51 or more persons per room as experiencing substantial overcrowding.

Some researchers excluded an overcrowding indicator from their hardship index due to its perceived limitations. For example, Mayer and Jencks (1989) excluded overcrowding from their final hardship index on the basis that it was found to have, "little effect on respondents' assessments of their living standards, perhaps because it does not coincide with subjective standards" (p. 96). Secondly, overcrowding measures do not take into account the size of rooms, the age and gender of household members or the economies of scale associated with living space (e.g., households that live in large living spaces need fewer rooms per person than those that live in small living spaces).

Durable Goods
Federman et al. (1992) and Rector et al. (1999) included two indicators of whether a household has two essential durable goods: a stove or a refrigerator in their residence or building. In both cases, these researchers find that the absence of these durable goods occurs only in vey low-income households. This finding is confirmed by cross-tabulations presented in Chapter 4 where 99% of households with children under 100% of FPL have a refrigerator and 98% have a stove. This suggests that these indicators identify only the most needy households.

Summary

Based on the information summarized in Exhibit 3.1, at first glance it appears that there is a great deal of similarity in how researchers have constructed their hardship indexes. The indexes define hardship in terms of direct measures of families' experiences and actual living conditions, and include a core set of basic needs and food insecurity indicators. The indexes also are unweighted and draw their data from the SIPP.

Despite these similarities, however, there is variation in the number and types of indicators researchers have used to create their material hardship indexes. For example, about half of the studies include indicators of housing quality in their hardship index and only four studies include a measure of whether a family lives in crowded housing. Furthermore, even in cases where all studies include the same basic indicator (i.e., food security, housing security, or basic utilities), researchers have used different questions and combinations of questions to construct these indicators.

[6] The 1999 American Housing Survey (AHS) shows 2.5% of all US occupied housing units as crowded, with a 7% rate for households in poverty, and 13% for Hispanic households (Richardson, 2001).

Given this variability in how researchers have defined and measured material hardship in their indexes, it is difficult to identify either a preferred approach to developing hardship indexes or agreement on a "core" set of indicators or measures or material hardship. Moreover, the differences among hardship indexes also make it difficult to compare the results from these studies - both for specific aspects of hardship such as food or housing, and for overall material hardship.

This lack of consistency in how researchers have created their indexes reflects the complexities associated with creating a composite measure of material hardship. While the frequent use of the SIPP as a data source for analyzing material hardship to some extent standardizes the types of indicators and measures included in hardship indexes, there is still much to be learned about how SIPP measures may be used and combined to identify material hardship among families with children. To further our understanding of the complexities faced when defining and measuring material hardship, Chapter 4 presents new descriptive analyses of the SIPP measures that have most frequently been used by researchers to construct material hardship indexes. These analyses provide a closer look at the SIPP and how its measures relate to other constructs, such as household income, where a household lives, and family structure, and each other.